

# Knobbe Martens Olson & Bear LLP

Intellectual Property Law

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2040 Main Street  
Fourteenth Floor  
Irvine, CA 92614  
Tel 949-760-0404  
Fax 949-760-9502  
www.kmob.com

Nancy W. Vensko  
805-547-5585  
nvensko@kmob.com



October 28, 2005

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Re: Title: THE ST-B17 SEROTONIN RECEPTOR  
Letters Patent No. 6,844,190  
Issued: January 18, 2005  
Our Reference No.: NIH047.1CP1C1

## Certificate NOV 04 2005 of Correction

Dear Sir:

Enclosed for filing is a Certificate of Correction in connection with the above-identified patent and a red-lined version of the applicable grant pages.

As not all of the errors cited in the Certificate of Correction were incurred through the fault of the Patent Office, but the Applicant, enclosed is our check in the amount of \$100. Please charge any additional fees to our Deposit Account No. 11-1410.

Respectfully submitted,

Knobbe, Martens, Olson & Bear, LLP

Nancy W. Vensko  
Registration No. 36,298  
Customer No. 45,311

Enclosures

1940046: clk:vb  
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11/01/2005 HLE333 00000008 6844190

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619-235-8550

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# UNITED STATES PATENT AND TRADEMARK OFFICE

## CERTIFICATE OF CORRECTION

**PATENT NO.** : 6,844,190 *β2*

**DATED** : January 18, 2005

**INVENTOR(S)**: Sibley et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 1, column 1 (Assignee), lines 1-3, please delete "The United States of America as represented by the Department of Health and Human Services" and insert --The Government of the United States of America, as represented by the Secretary, Department of Health and Human Services--, therefore.

At column 35, line 51, in Claim 1, please delete "sequence" and insert --sequence--, therefore.

At column 35, line 55, in Claim 1 (c), after "sequence" and before "from a human genomic library" please insert --obtainable--.

At column 35, line 58 (Approximate), in Claim 1, please delete "6xSSC" and insert --6XSSC--, therefore.

At column 36, line 54 (Approximate), in Claim 6, please delete "propoter" and insert --promoter--, therefore.

At column 36, line 58 (Approximate), in Claim 9, please delete "nude tide" and insert --nucleotide--, therefore.

MAILING ADDRESS OF SENDER:

Nancy W. Vensko  
KNOBBE, MARTENS, OLSON & BEAR, LLP  
2040 Main Street, 14<sup>th</sup> Floor  
Irvine, California 92614

PATENT NO. 6,844,190

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(12) **United States Patent**  
Sibley et al.

(10) Patent No.: **US 6,844,190 B2**  
(45) Date of Patent: **Jan. 18, 2005**

(54) **ST-B17 SEROTONIN RECEPTOR**

5,472,866 A 12/1995 Gerald et al.

(75) Inventors: **David R. Sibley**, Gaithersburg, MD (US); **Frederick J. Monsma, Jr.**, Riehen (CH); **Mark Hamblin**, Seattle, WA (US)

# FOREIGN PATENT DOCUMENTS

WO WO 91/17174 11/1991

# OTHER PUBLICATIONS

(73) Assignee: **The United States of America as** 1  
**represented by the Department of** 2  
**Health and Human Services** 3  
Washington, DC (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/829,631

(22) Filed: Apr. 10, 2001

(65) **Prior Publication Data**

US 2002/0091235 A1 Jul. 11, 2002

# Related U.S. Application Data

(63) Continuation-in-part of application No. 08/428,242, filed as application No. PCT/US93/10296 on Oct. 26, 1993, now abandoned, which is a continuation of application No. 07/970,338, filed on Oct. 26, 1992, now abandoned.

(51) Int. Cl.<sup>7</sup> ..... C12N 5/00; C12N 15/00;  
C12Q 1/68; C07K 14/435

(52) U.S. Cl. .... 435/325; 435/6; 435/69.1;  
435/320.1; 536/23.5; 530/350

(58) Field of Search ..... 536/23.5; 435/6;  
435/69.1, 320.1, 325; 530/350

(56) **References Cited**

# U.S. PATENT DOCUMENTS

4,985,352 A 1/1991 Julius et al.

Hen, R., Of mice and flies: commonalities among 5-HT receptors. Trends in Pharmacological Sciences, 1992, vol. 13, pp 160-165.

Kohen, R., et al., Cloning, characterization, and chromosomal localization of a human 5-HT<sub>6</sub> serotonin receptor, J. Neurochemistry, 1996, vol. 66, pp. 47-56.

Monsma, F., et al., Cloning and expression of a novel serotonin receptor with high affinity to tricyclic psychotropic drugs, Mol. Pharm, 1993, 43(3), pp. 320-327.

Ruat, M., et al., A novel rat serotonin (5-HT<sub>6</sub>) receptor molecular cloning, localization and stimulation of camp accumulation, BBRC. 1993. vol. 193(1). pp. 268-276.

*Primary Examiner*—Marianne P. Allen

(74) *Attorney, Agent, or Firm*—Knobbe, Martens, Olson & Bear, LLP

(57) **ABSTRACT**

Genes encoding the St-B17 serotonin receptor protein were cloned and characterized from a rat striatum mRNA and a human genomic library. The St-B17 receptor has nucleotide and amino acid homology with previously described 5-HT genes and can bind ligands that are known to interact with serotonin receptors. In addition, the levels of intracellular cAMP in cells transfected with the receptor gene respond in a dose dependent manner to introduction of serotonin in the media.

**12 Claims, 5 Drawing Sheets**

-continued

|   |     |     |     |
|---|-----|-----|-----|
| 145   | 150 | 155 | 160 |
| Leu Leu Leu Gly Trp His Glu Leu Gly His Ala Arg Pro Pro Val Pro | 165 | 170 | 175 |
| Gly Gln Cys Arg Leu Leu Ala Ser Leu Pro Phe Val Leu Val Ala Ser | 180 | 185 | 190 |
| Gly Leu Thr Phe Phe Leu Pro Ser Gly Ala Ile Cys Phe Thr Tyr Cys | 195 | 200 | 205 |
| Arg Ile Leu Leu Ala Ala Arg Lys Gln Ala Val Gln Val Ala Ser Leu | 210 | 215 | 220 |
| Thr Thr Gly Met Ala Ser Gln Ala Ser Glu Thr Leu Gln Val Pro Arg | 225 | 230 | 235 |
| Ser Pro Ala Ala Gly Val Glu Ser Ala Asp Ser Arg Arg Leu Ala Thr | 245 | 250 | 255 |
| Lys Ser Ser Arg Lys Gly Leu Lys Ala Ser Met Thr Leu Gly Ile Leu | 260 | 265 | 270 |
| Leu Gly Met Phe Phe Val Thr Trp Leu Pro Phe Phe Val Ala Asn Ile | 275 | 280 | 285 |
| Val Gln Ala Val Cys Asp Cys Ile Ser Pro Gly Leu Phe Asp Val Leu | 290 | 295 | 300 |
| Thr Trp Leu Gly Tyr Cys Asn Ser Thr Met Asn Pro Ile Ile Tyr Pro | 305 | 310 | 315 |
| Leu Phe Met Leu Asp Phe Lys Arg Ala Leu Gly Arg Phe Leu Pro Cys | 325 | 330 | 335 |
| Pro Arg Cys Pro Arg Glu Pro Arg Pro Ala Trp Pro Arg His His Cys | 340 | 345 | 350 |
| Ala Pro Leu Thr Ala Ala Pro Gly Pro Ala Leu Ala Tyr Ser Arg Cys | 355 | 360 | 365 |
| Cys Arg Cys Pro Cys Arg Arg Thr Gln Ile Arg Thr Gln Thr Gln Ala | 370 | 375 | 380 |
| Gln Ala Ala Pro Arg Ala Cys Gly Ser Arg Pro Ser Cys Cys Phe Leu | 385 | 390 | 395 |
| Ala Arg Pro Pro Arg Thr Pro Arg Cys Pro Pro Gly Pro Leu Pro Pro | 405 | 410 | 415 |
| Ser Ile Ser Ser Thr Ser Xaa Pro Ala Glu Pro Glu Leu Arg Pro His | 420 | 425 | 430 |
| Pro Leu Gly Ile Pro Thr Asn                                     | 435 |     |     |

What is claimed is:

1. An isolated nucleotide sequence 1 coding a serotonin receptor protein 5-HT<sub>6</sub>, said nucleotide sequence being selected from:

- (a) a nucleotide sequence comprising SEQ ID NO:7;  
 (b) a nucleotide sequence comprising SEQ ID NO:12;  
 (c) a nucleotide sequence from a human genomic library hybridizing under moderate stringency conditions at 6xSSC 3rd 55° C., pH7, to a 1192 bp XmaI-BstXI and a 655 bp BamHI-EagI fragment from SEQ ID NO:7; or  
 (d) a nucleotide sequence encoding a protein having the amino acid sequence shown by SEQ ID NO:8 or SEQ ID NO: 13.

2. The nucleotide sequence according to claim 1, wherein said nucleotide sequence is selected from (a).

3. The nucleotide sequence according to claim 1, wherein said nucleotide sequence is selected from (b).

4. The nucleotide sequence according to claim 1, wherein said nucleotide sequence is selected from (c).

50 5. The nucleotide sequence according to claim 1, wherein said nucleotide sequence is selected from (d).

6. A recombinant construct comprising the nucleotide sequence according to claim 1, operably linked to a heterologous promoter 2

55 7. The recombinant construct according to claim 6, which is an expression vector.

8. The recombinant construct according to claim 7, which is a eukaryotic expression vector.

9. A mammalian cell line comprising the nucleotide 4 sequence of claim 1, said mammalian cell line expressing 5-HT<sub>6</sub> serotonin receptor.

60 10. The cell line of claim 9, wherein said cells are derived from a human.

11. The cell line of claim 10, wherein said cells are HEK 293.

65 12. An isolated protein encoded by the nucleotide sequence of any of claims 1-5.

\* \* \* \* \*

obtainable